

REMARKS

Claims 1-16 are all the claims pending in the application.

Claim Rejections under 35 U.S.C. § 102(b)

The Examiner rejects claims 1, 5, 9, and 13 under 35 U.S.C. § 102(b) as being anticipated by Shouen (US Patent 5,745,371). The Applicant respectfully traverses the rejection of claim 1.

Claim 1 recites a device for estimating the number of layers needed to connect component pins to either ground pins or power supply pins and computing the necessary routes for wiring these components while accommodating for existing pins and prohibited areas.

The Examiner argues that Shouen discloses all the elements of the rejected claims and in particular that it discloses a device for estimating the layers needed for connecting components to pins that contains a wire route searching section. Shouen discloses a system for mounting and designing a printed circuit board by computer aided design that contains a preparations unit, displaying unit, arrangement designating unit, and a connection designating unit. The “connection designation unit” of Figure 3 “designates a wiring connection relation among the parts by adding logical connection information indicating a connection among each of the logical function elements to the part symbol displayed in the displaying unit.” (Shouen, col 5, lines 52-55).

Claim 1, however, recites a “wire route searching section for searching for a wiring route in reference to the information stored in the storage to output to the output device a structure of a present board and the number of layers constituting the present board.” The Examiner asserts that this element of claim 1 is disclosed in Shouen in Figs. 5, 6, 8, 9, and 15 and at col. 10, line 22. However, it is respectfully submitted that these portions of Shouen do not disclose

outputting a number of layers constituting a board. Shouen's connection designation unit does not contain layer information as required by the claims, only information of the component parts in relation to each other. (*Id.*, Shouen). Since Shouen does not disclose a device to estimate the number of layers needed to connect all the component part's pins, Shouen does not anticipate claim 1.

Claims 2-8 should be patentable for at least the same reasons because of their dependence on claim 1.

The Examiner alleges the same argument as for claim 9. The Applicant respectfully traverses the rejection. Claim 9 is directed to a method of estimating the number of board layers necessary to connect component pins. The Examiner alleges Shouen teaches the wiring route searching step of claim 9 which searches for a wiring route and outputs the number of layers constituting a board. Shouen's connection designation step may teach a method to connect component parts in relationship each other, but it does not teach anything analogous to a wire route searching step that generates an estimate of the number of layers needed or that outputs the number of layers constituting a board. (*Id.*). Therefore, claim 9 is not anticipated by Shouen. Claims 10-13 are not anticipated by Shouen for at least the same reasons.

Allowable Claims

The Examiner objected to claims 2-4, 6-8, 10-12, and 14-16 without addressing them in the Office Action. The Applicant's undersigned representative called the Examiner on September 21, 2006 to inquire as to the allowability of the claims. An agreement was reached in that the Examiner said he will allow those claims if amended to include the limitations of the independent claims and any intervening claims.

RESPONSE UNDER 37 C.F.R. §1.111
U.S. APPLN. NO. 10/777,103

DOCKET NO. Q79930

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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